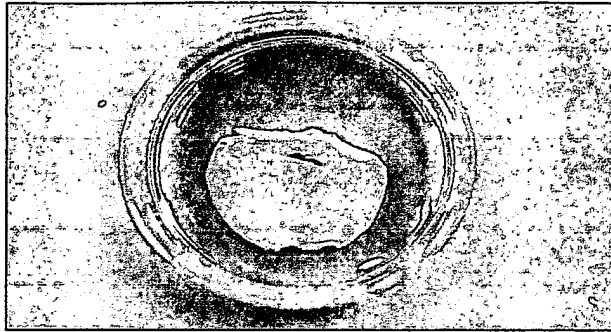
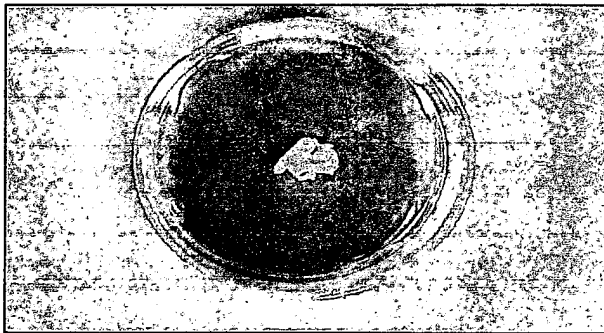


**FIG 1.**

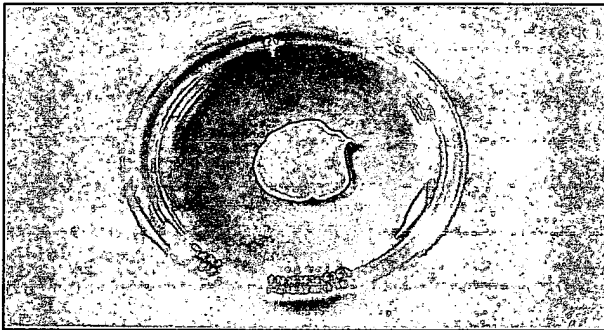
**a**  
**Dermal**  
**Fibroblasts**



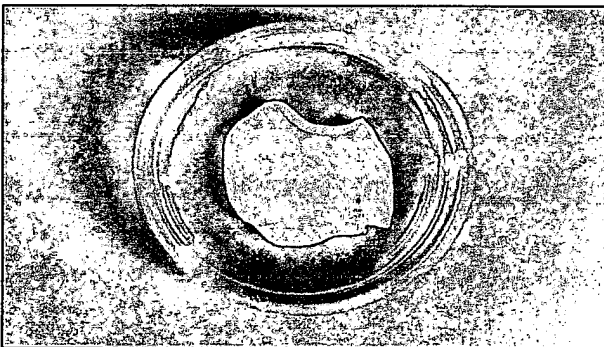
**b**  
**Adipose**  
**stromal cells**



**c**  
**Chondrocytes**



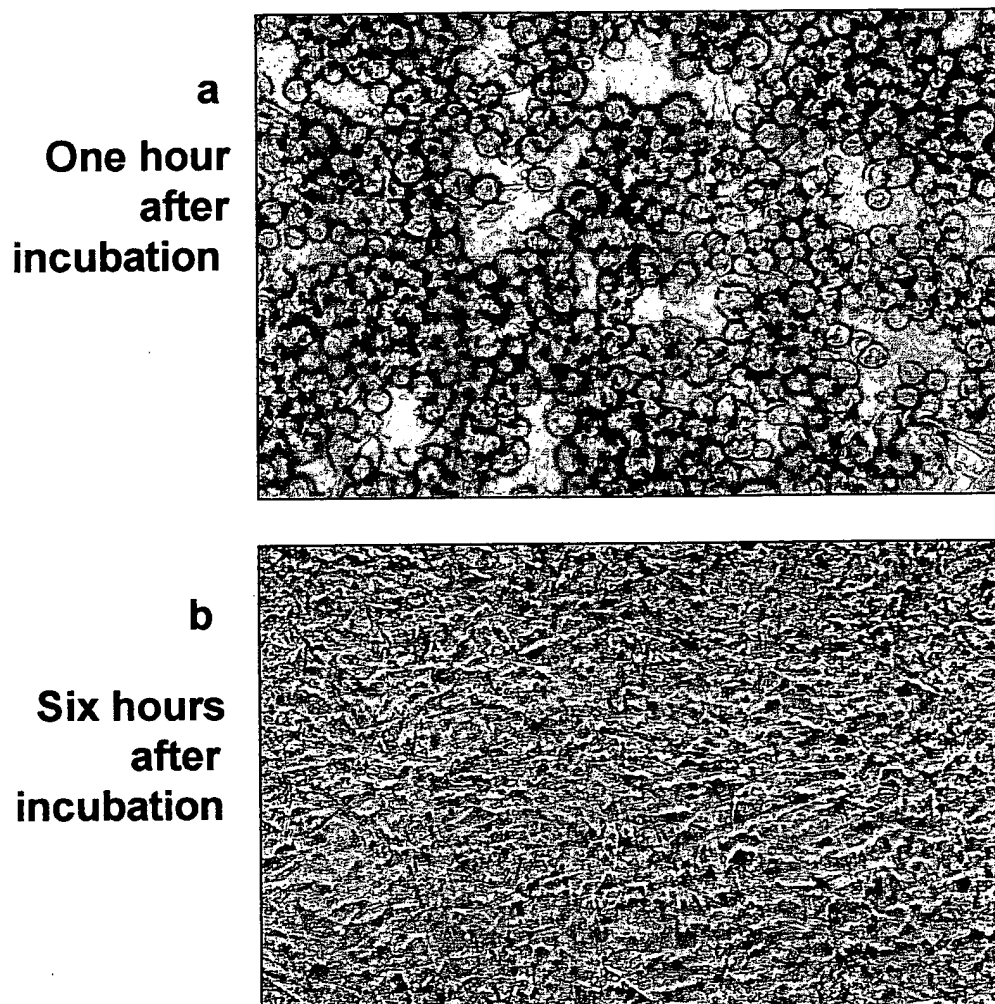
**d**  
**Osteoblasts**



**1 cm**

**Tissue-like constructs formed by macromass culture of different cell types, shown in 3.5 cm dishes.**

**FIG 2.**



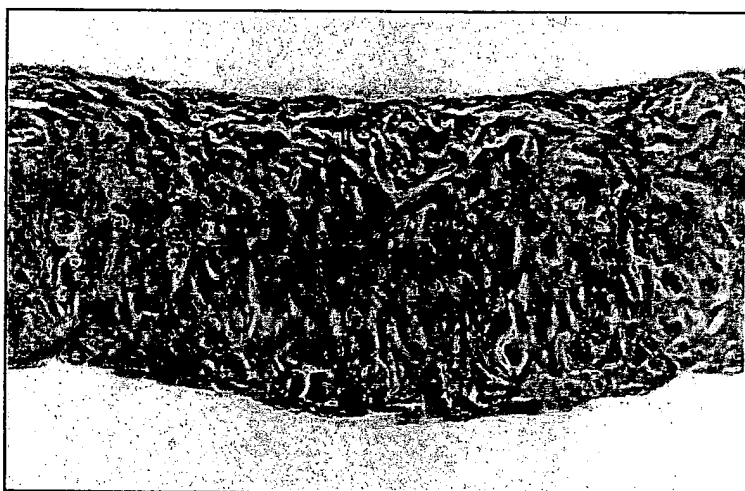
**Cell-cell integration process in macromass  
culture of adipose-derived stromal cells.**

**FIG 3.**

**a**  
**Hematoxylin**  
**& eosin**



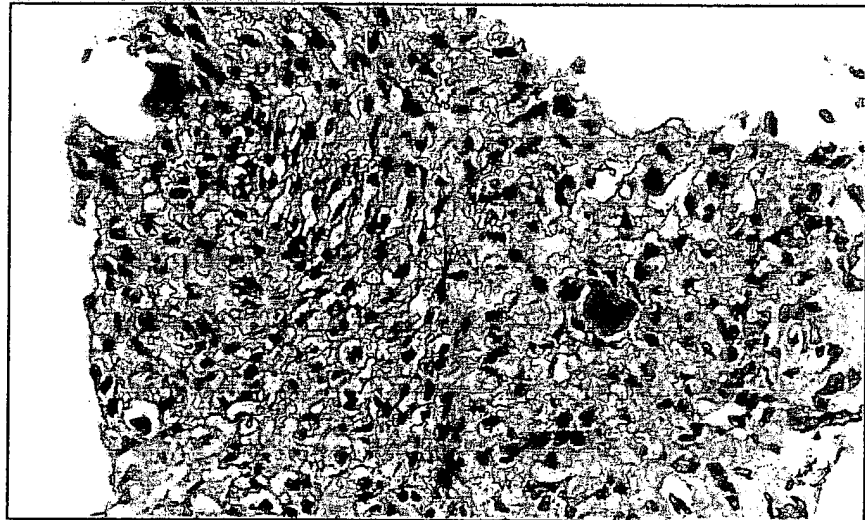
**b**  
**Masson-**  
**Trichome**



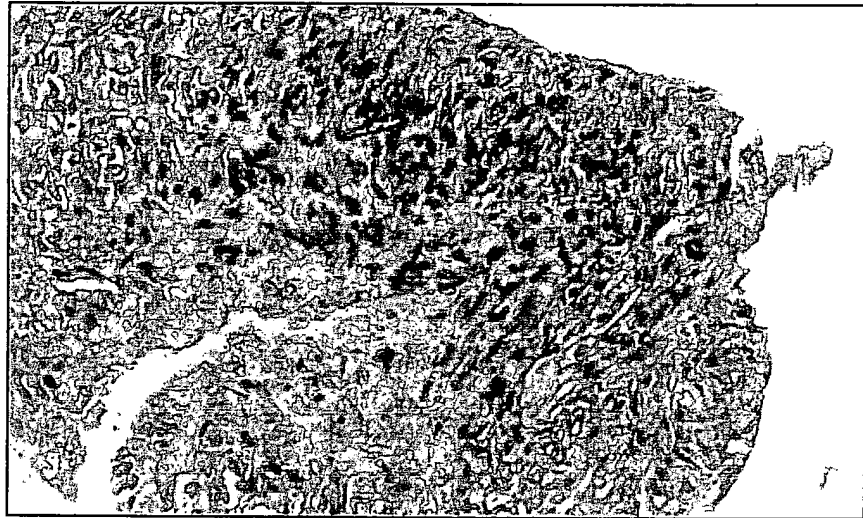
**Histological examination of tissue-sheet formed by  
macromass culture from dermal fibroblasts.**

**FIG 4.**

**a**  
**Hematoxylin**  
**& eosin**



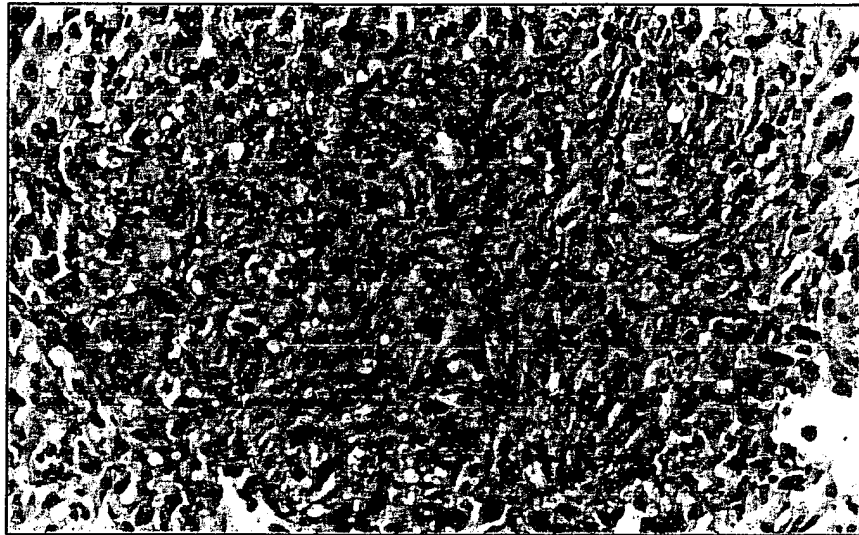
**b**  
**Masson-**  
**Trichome**



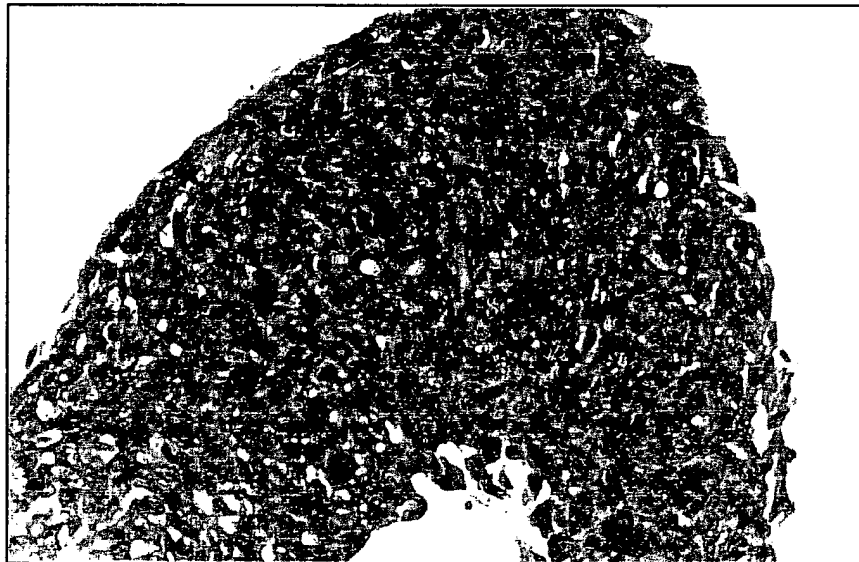
**Histological examination of tissue-like construct formed by macromass culture of osteogenic cells derived from adipose stromal cells.**

**FIG 5.**

**a**  
**Hematoxylin**  
**& eosin**

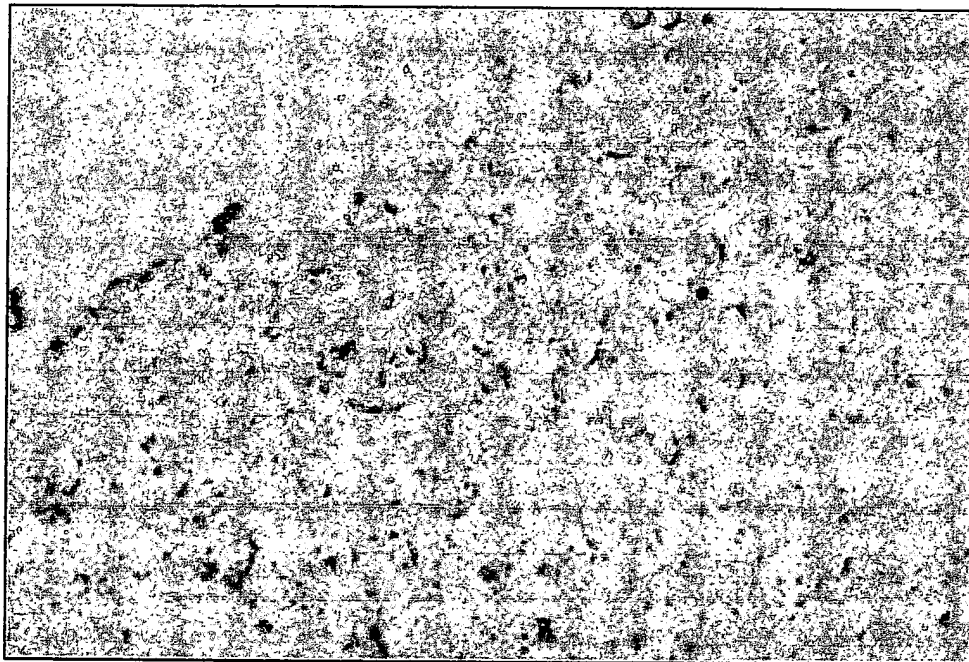


**b**  
**Masson-Trichome**



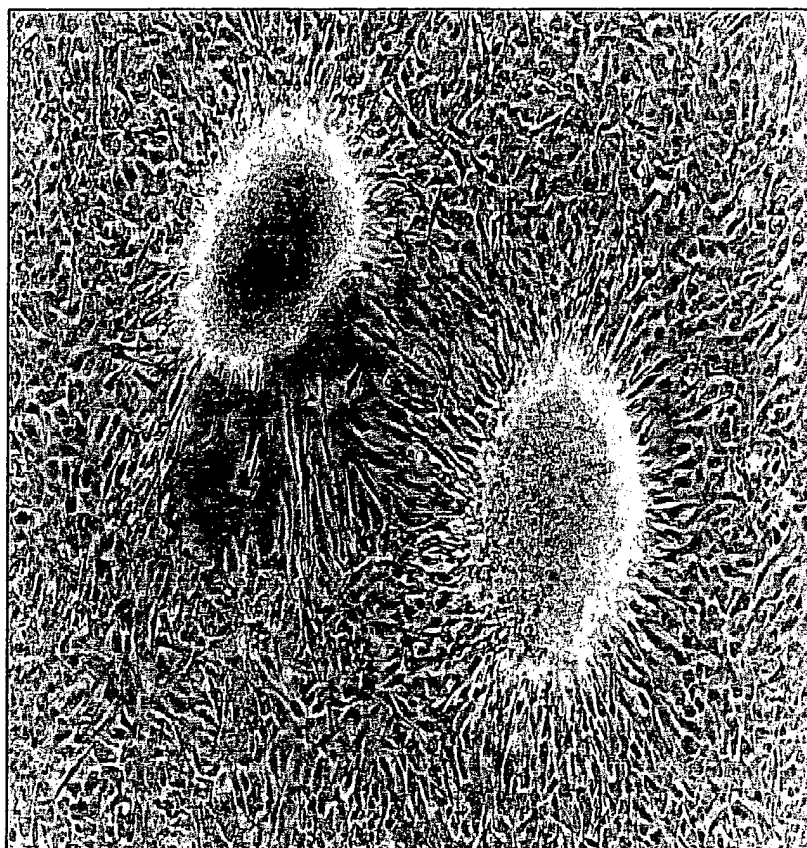
**Histological examination of tissue- like construct  
made by macromass culture of chondrocytes.**

**FIG 6.**



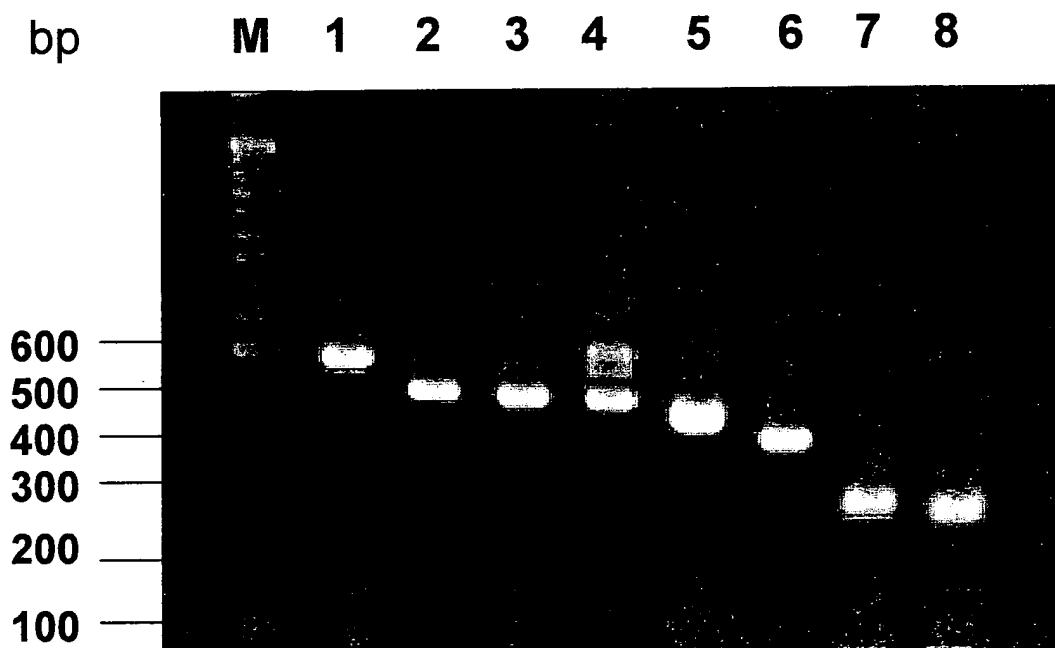
**Histological section of tissue-like construct made from dermal fibroblasts by macromass culture, showing positive immunohistochemical detection of Collagen type I.**

**FIG 7.**



**Cells regrown from tissue sheet made from dermal fibroblasts for assessing viability.**

FIG 8.



**M – DNA molecular size ladder**

**1 – Collagen type I**

**2 – Syndecan 2**

**3 – Tenascin-C**

**4 – Vascular endothelial growth factor**

**5 – Collagen type III**

**6 – Fibronectin**

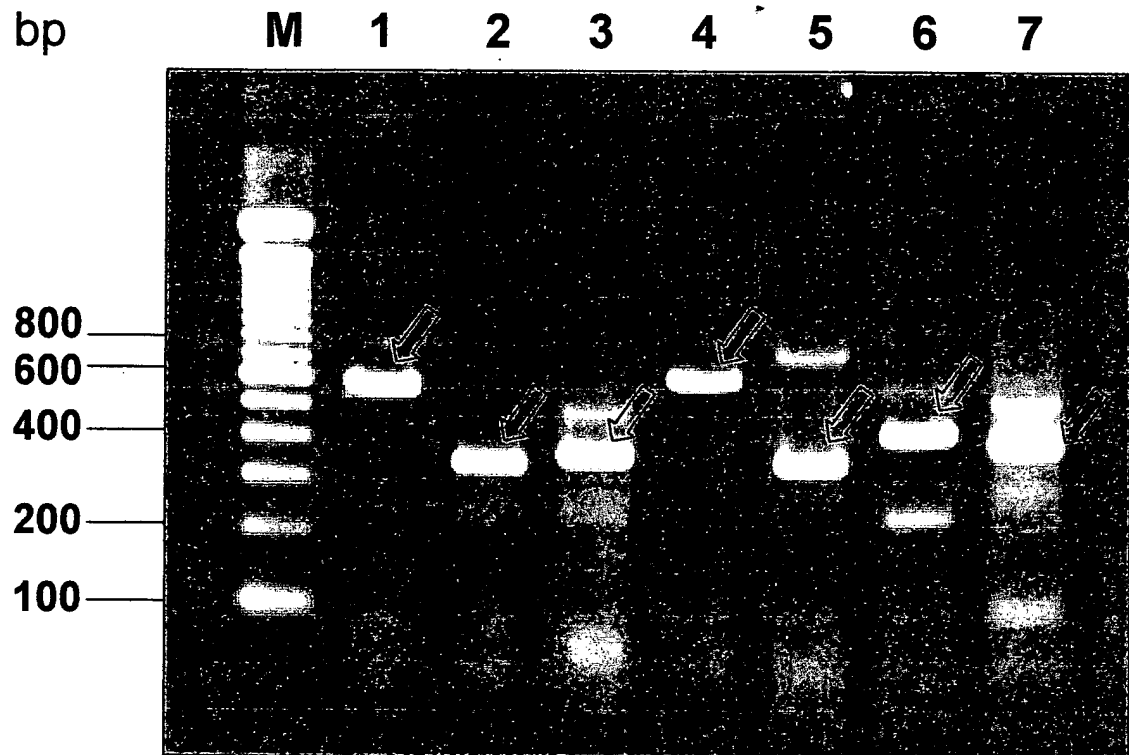
**7 – Keratinocyte growth factor**

**8 – Transforming growth factor 1 $\beta$**

**Gene expression in tissue sheet formed from dermal fibroblasts by macromass culture.**



FIG 9.



**M – DNA molecular size ladder**

**1 – Collagen type I**

**2 – Osteopontin**

**3 – Parathyroid hormone receptor**

**4 – Bone morphogenetic protein 2**

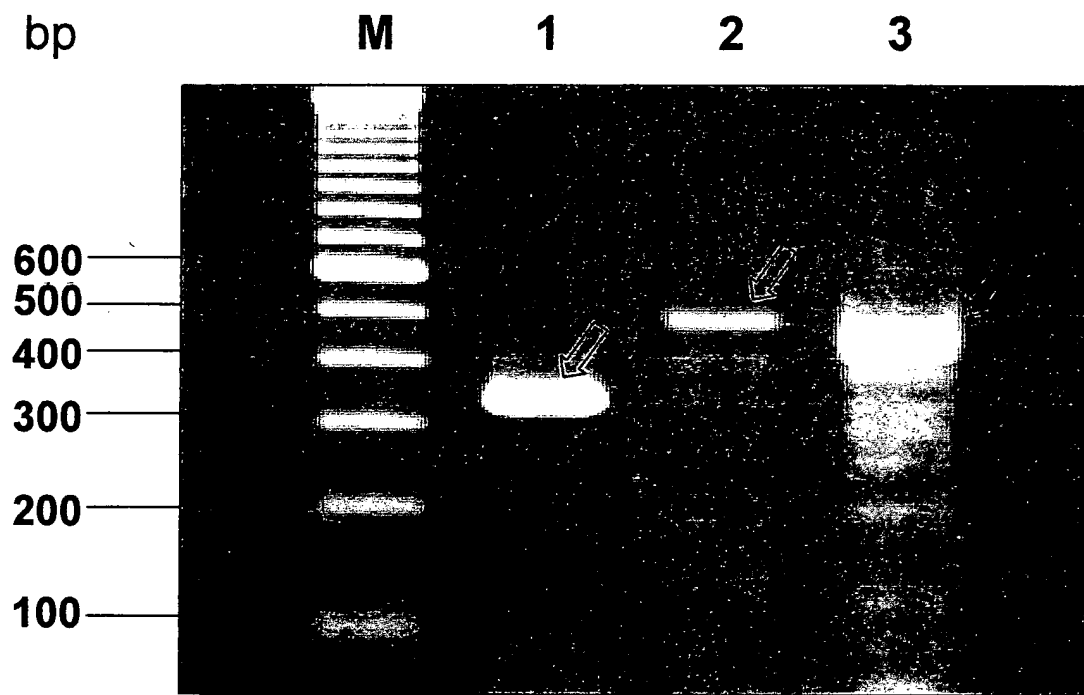
**5 – Bone morphogenetic protein 4**

**6 – Bone morphogenetic protein receptor IA**

**7 – Bone morphogenetic protein receptor IB**

**Gene expression in tissue sheet formed from osteogenic adipose stromal cells by macromass culture.**

FIG 10.



**M – DNA molecular size ladder**

**1 – Aggrecan**

**2 – Collagen type II**

**3 – Collagen type X**

**Gene expression in tissue sheet formed from chondrocytes  
by macromass culture.**

FIG 11.

**a**  
**Focal actual**  
**bone formation**  
**(Masson-Trichome)**



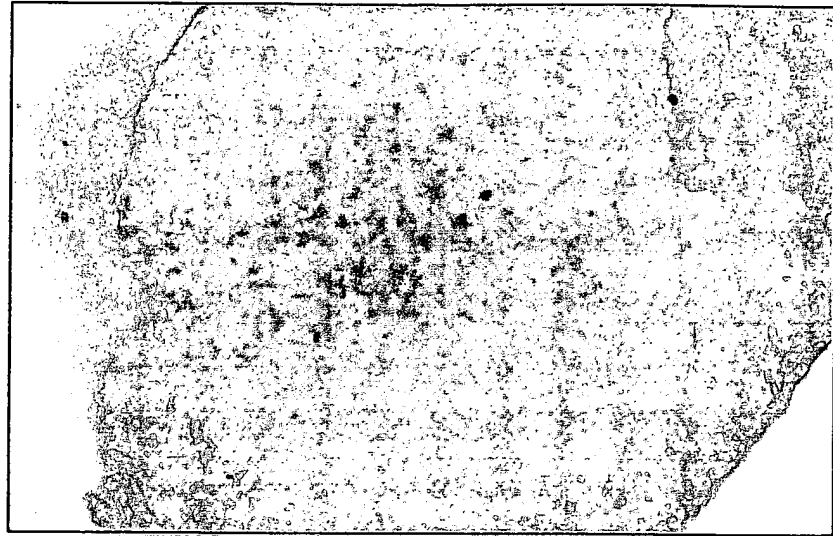
**b**  
**Focal calcium**  
**deposition**  
**(Von Kossa)**



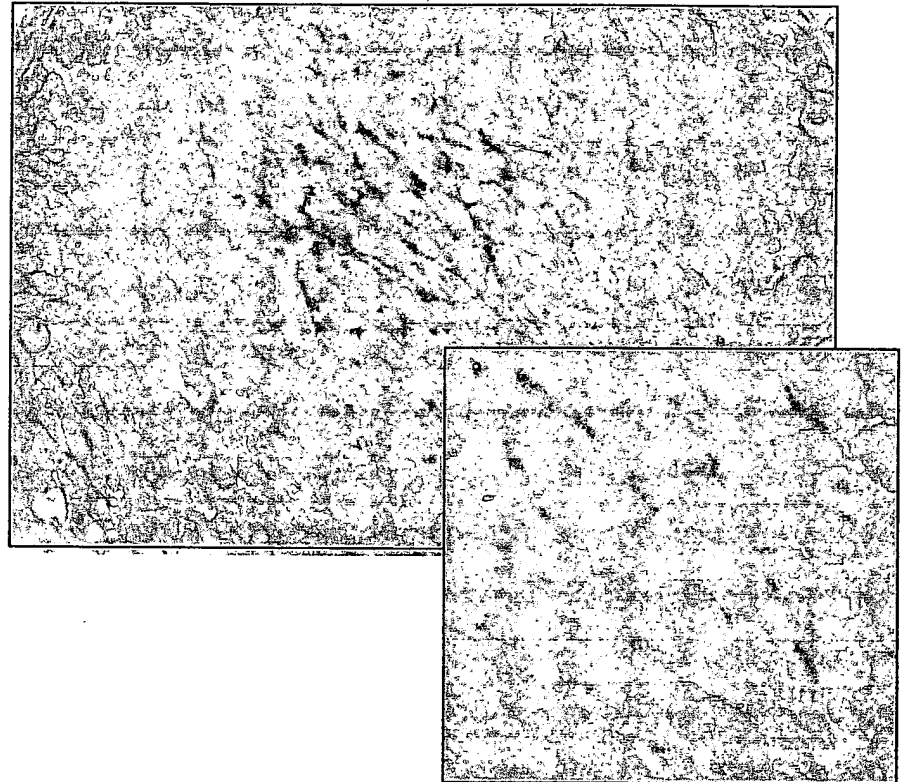
**Histological examination of tissue- like construct made by macromass culture from osteogenic adipose stromal cells in the presence of conditioned osteogenic medium.**

FIG 12.

**a**  
**DMEM + 10% FCS**

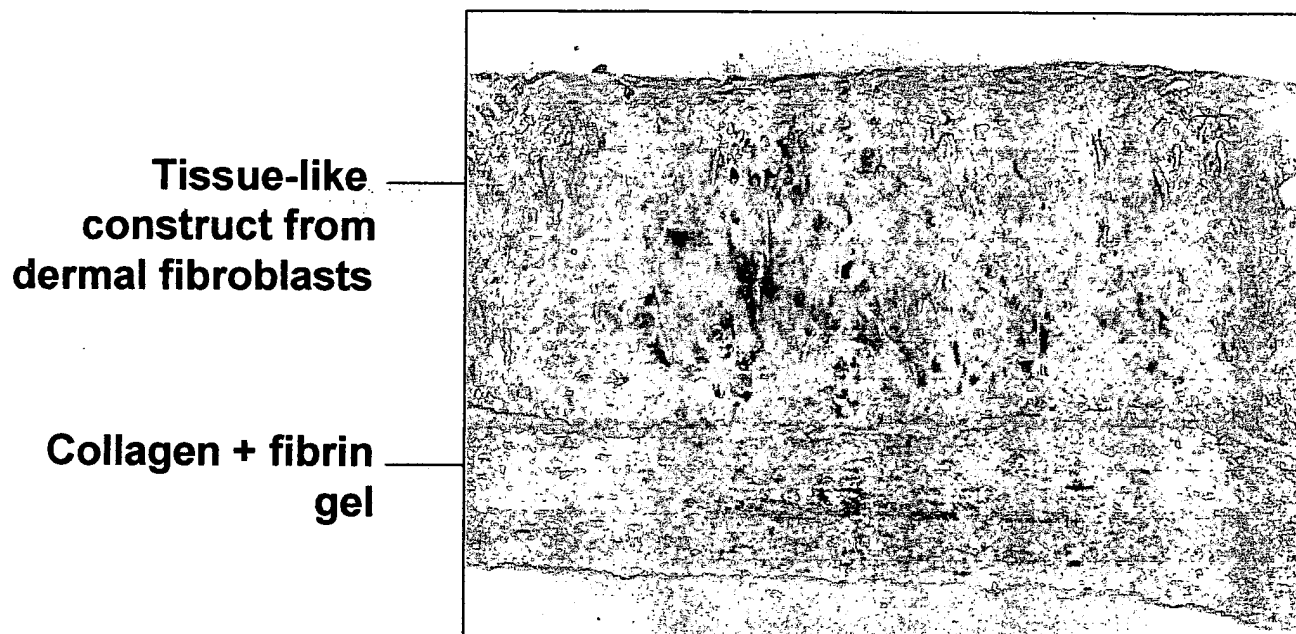


**b**  
**Chondrogenic medium**



**Toluidine Blue staining of histological sections of tissue-like constructs made from chondrocytes in the presence of chondrogenic medium compared with DMEM + 10% FCS, showing modulation of properties (cartilage-specific ECM formation in b)**

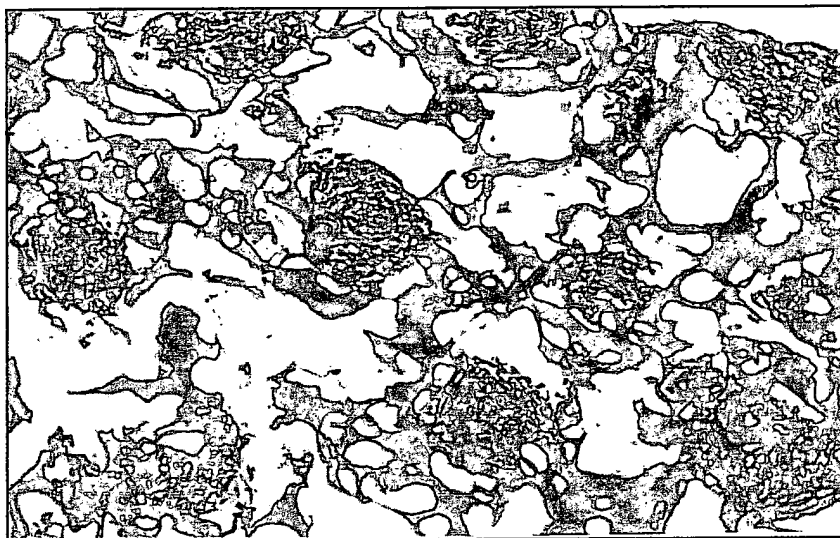
**FIG 13.**



**Histological section of a composite object consisting of tissue-like construct made by macromass culture from dermal fibroblasts overlaid with a collagen + fibrin gel.**

**FIG 14.**

**Lower magnification**



**Higher magnification**



**Histological sections of macromass culture from dermal fibroblasts within a gelatin sponge, showing clusters of tissue-like organization.**